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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/615,092

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Koji Kawano

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MCLEAN, VA 22102

EXAMINER

SIPPLE IV, EDWARD C

ART UNIT

PAPER NUMBER

4178

NOTIFICATION DATE

DELIVERY MODE

01/25/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/615,092	<b>Applicant(s)</b> KAWANO ET AL.	
	<b>Examiner</b> EDWARD C. SIPPLE IV	<b>Art Unit</b> 4178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11/15/2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed November 15, 2007 have been fully considered but they are not persuasive.

With regards to Claim 1 Applicant argues that Matsuura fails to teach or suggest that the distributor 46, the low-pass filter 51, and the amplifier 52 could or should be used to perform any other function other than to process IF signals, and certainly fails to teach or suggest that these elements could be used to process RF signals before they are converted to IF signals. The Examiner respectfully disagrees.

Firstly, the Examiner submits that Applicant's Claim 1 does not claim the processing of RF signals. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). (Assuming arguendo, it is noted that Matsuura does, in fact teach the processing of RF signals as evidenced by Column 6 Lines 15-29.)

Secondly, Applicant further argued that the low-pass filter 36, and the amplifier 38 recited in Applicant's Claim 1 are configured to distribute the downstream signal before the first mixer, i.e., to distribute analog RF signals, and that Matsuura fails to teach or suggest that the low-pass filter 51 and the amplifier 52 could or should be used to output analog signals.

The Examiner respectfully disagrees. Matsuura teaches the processing of analog signals encoded with digital information. See Column 8 Lines 40-46, (note, the output

from terminal 35 is an analog signal encoded with a digital signal using QAM modulation).

Finally, Applicant argued that one of ordinary skill in the art would not have been motivated to combine the teachings of Matsuura with AAPA, and that since Matsuura fails to teach or suggest that the distributor, low-pass filter, and amplifier disclosed therein are even suitable for processing and outputting RF signals, Matsuura certainly fails to provide any teaching, suggestion, or incentive to support the combination of AAPA and Matsuura proposed by the Examiner.

The Examiner respectfully disagrees. In response to Applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case all the claimed elements were known in the prior art, and one of ordinary skill in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time the invention was made. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the low-pass filter and amplifier arrangement described by Matsuura within the CATV tuner taught by AAPA. The

motivation would have been to both shorten the low-level signal path, and block unwanted frequencies contained within the downstream signal from entering the amplifier.

Regarding the further rejections relying upon Shaw, Sugiura et al., and Blumlein et al Applicant makes no further arguments over those previously addressed. Therefore, these arguments are likewise not persuasive.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 6-8, and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art - AAPA (spec. pages 1-4, lines 12-36 and figures 4 and 5) in view of (Matsuura U.S. Patent No. 6,131,023).

Regarding Claim 1, AAPA discloses a CATV tuner (spec. page1 lines 10-14) comprising:

an input circuit connected to an input terminal (spec. page 1 lines 12-16)  
for transmitting (spec. page 2 lines 9-13) and receiving (spec. page 1 lines 12-17)  
a signal to and from a CATV station the input circuit including an upstream-signal

input terminal (spec. page 2 lines 11-15), a distributor (spec. page 2 lines 21-25), an amplifier (figure 5 element 16), and a downstream-signal output terminal (spec. page 2 lines 26-29);

a first mixer circuit for mixing an output signal from the input circuit (spec page 1 lines 15-19) and a first local-oscillation signal (spec. page 1 lines 18-22) so as to generate a first IF signal (spec. page 1 lines 21-25);

a first oscillation circuit for transmitting the first local-oscillation signal to the first mixer circuit (spec. page 1 lines 18-22)

a first IF circuit for processing the first IF signal; (spec. page 1 lines 23-26);

a second mixer circuit for mixing an output signal from the first IF circuit (spec. page 1 lines 26-30) and a second local-oscillation signal (spec. page 1 lines 29-33) so as to generate a second IF signal (spec. page 1 lines 31-34); and

a second oscillation circuit for transmitting the second local-oscillation signal to the second mixer circuit; (spec. page 1 lines 26-32) and

a second IF circuit for processing the second IF signal (spec. page 1 lines 32-36);

wherein at least one upstream signal is input to the upstream-signal input terminal so as to be transmitted to the CATV station (spec. page 2 lines 10-14), the distributor distributes a reception signal to generate distributed signals and transmits one of the distributed signals to the downstream-signal output terminal

as a downstream signal so that the downstream signal is output therefrom (spec. page 2 lines 26-32)

The AAPA does not teach:

the amplifier is arranged between the distributor and the downstream-signal output terminal so as to amplify the downstream signal, and the low-pass filter is arranged between the distributor and the amplifier so as to remove a CATV signal having a frequency that is higher than a predetermined upper limit frequency of the downstream signal.

Matsuura teaches:

the amplifier is arranged between the distributor and the downstream-signal output terminal (fig. 1 elements 35, 46 and 52) so as to amplify the downstream signal (paragraph 8 Lines 40-44), and the low-pass filter is arranged between the distributor and the amplifier (fig.1 elements 46, 51 and 52) so as to remove a CATV signal having a frequency that is higher than a predetermined upper limit frequency of the downstream signal (element 51 is capable of removing unwanted frequencies, see paragraph 8 lines 34-36).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the low-pass-filter and amplifier arrangement described by Matsuura within the device described by AAPA.

The motivation would be to prevent frequencies that are too high or from entering the downstream signal amplifier and to shorten the low-level signal input path to the downstream signal amplifier, thus reducing noise and interference. A prime factor in the

Art Unit: 4178

design process of a tuner circuit is to reduce noise and improve signal quality; an explicit example can be seen in (Moon U.S. Patent No. 4,520,507, col. 3 lines 15-20).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art - AAPA (spec. pages 1-4, lines 12-36 and figures 4 and 5) in view of (Matsuura U.S. Patent No. 6,131,023) as applied to claim 1 above.

The prior art applied to claim 1 does not teach:

further comprising a tuner case having the input circuit provided therein.

Official notice is taken that it is well known in the art to incorporate circuits within a housing or case.

Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to insert the complete circuit within a case as to provide a convenient structure for the device.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art - AAPA (spec. pages 1-4, lines 12-36 and figures 4 and 5) in view of (Matsuura U.S. Patent No. 6,131,023) as applied to claim 1 above.

AAPA (spec. pages 1-4, lines 12-36 and figures 4 and 5) further discloses:

wherein an output from one end of the distributor is transmitted to the downstream-signal output terminal (spec. page 2 lines 26-31)

Prior art applied to claim 1 above does not teach:

Via the low-pass filter and the amplifier



Official notice is taken that it is well known in the art to incorporate previously external components within a circuit.

Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to insert a low-pass filter and an amplifier as to amplify the signal received by the downstream signal output terminal.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art - AAPA (spec. pages 1-4, lines 12-36 and figures 4 and 5) in view of (Matsuura U.S. Patent No. 6,131,023) as applied to claim 1 above.

The AAPA further discloses:

wherein an output from one end of the distributor is subjected to processing and transmitted to the first mixer circuit (spec. page 2 lines 23-26).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art - AAPA (spec. pages 1-4, lines 12-36 and figures 4 and 5) in view of (Matsuura U.S. Patent No. 6,131,023) as applied to claims 1 and 6 above.

The admitted prior art applied to claims 1 and 6 does not teach:

wherein the amplifier is provided in the tuner case.

Official notice is taken that it is well known in the art to incorporate circuit components within a housing or case.

Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to insert the amplifier within a case so as to prevent the need for a separate amplifier outside the CATV tuner.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art - AAPA (spec. pages 1-4, lines 12-36 and figures 4 and 5) in view of (Matsuura U.S. Patent No. 6,131,023) as applied to claim 1 above.

The prior art applied to claim 1 above does not teach:

wherein the low-pass filter functions as a matching circuit for making the downstream signal transmitted from the distributor suitable to be input to the amplifier.

Official notice is taken that it is well known in the art to select components that will provide suitable signals as input for subsequent components.

Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to select a low-pass filter that makes the input signal to the downstream amplifier suitable as to provide the most appropriate input signal possible to the downstream signal amplifier.

2. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art applied to claim 1 above, and further in view of (Shaw U.S. Patent # 5,953,043).

The prior art applied to claim 1 above does not teach:

a resistor arranged between the amplifier and the downstream-signal output terminal.

Shaw teaches:

a resistor arranged between the amplifier and the downstream-signal output terminal (fig. 1A elements 18, 28 and 30, also paragraph 3 lines 52-55).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the resistor arrangement described by Shaw within the downstream signal circuit.

The motivation would have been to impedance match the amplifier output with the input of the set-top-box (See Shaw paragraph 3 lines 52-54).

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art - AAPA (spec. pages 1-4, lines 12-36 and Figures 4 and 5) in view of (Matsuura U.S. Patent No. 6,131,023) as applied to claim 1 above, and further in view of (Sugiura U.S. Application # 09/800,276).

The prior art applied to claim 1 above does not teach:

a high-pass filter arranged between the distributor and the amplifier so as to block the upstream signal.

Sugiura teaches:

a high-pass filter arranged between the distributor and the amplifier (Fig. 2 Elements 16 and 18; note the junction above Element 16) so as to block the upstream signal ( Paragraph [0054] Lines 4-7).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the circuit described in Claim 1 with the teachings of Sugiura by inserting a high-pass filter between the distributor and the downstream signal amplifier.

The motivation being to further block the upstream signal from reaching the downstream signal amplifier. Moreover, rearranging parts/components of an invention involves only routine skill in the art.

Art Unit: 4178

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art applied to claim 2 above, and further in view of (Blumlein U.S. Patent No. 2,263,376).

The prior art applied to claim 2 above does not teach:

the high-pass filter and the low-pass filter define a band-pass filter

Blumlein teaches:

the high-pass filter and the low-pass filter define a band-pass filter (page 5, col. 9 lines 25-30)

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the teachings of Blumlein, and select a high pass filter and a low pass filter with overlapping frequencies as to define a band pass filter so as to simultaneously block the CATV signal (frequency too high) and the upstream signal (frequency too low) from reaching the input to the downstream signal amplifier.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art applied to claim 2 above, and further in view of (Shaw U.S. Patent # 5,953,043).

The prior art applied to claim 2 above does not teach:

a resistor arranged between the amplifier and the downstream-signal output terminal.

Shaw teaches:

a resistor arranged between the amplifier and the downstream-signal output terminal (fig. 1A elements 18, 28 and 30, also paragraph 3 lines 52-55).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the resistor arrangement described by Shaw within the downstream signal circuit.

The motivation would have been to impedance match the amplifier output with the input of the set-top-box (See Shaw paragraph 3 lines 52-54).

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD C. SIPPLE IV whose telephone number is (571)270-3414. The examiner can normally be reached on M-F 8-5 EST 5/4/9 schedule.

Art Unit: 4178

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hai Tran can be reached on 571 272 7305. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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01/09/2008

/Hai Tran/

Supervisory Patent Examiner, Art Unit 4178